

CLAIMS:

1. A key cylinder for selectively locking and unlocking a lock mechanism, wherein the key cylinder has a rotor capable of being rotated by a key, and a lever for connecting the rotor to the lock mechanism, the key cylinder comprising:

a recess formed in an end of the rotor, wherein an end portion of the lever fits in the recess; and

a holder located between the end portion of the lever and the recess, wherein the holder holds the lever such that an axis of the lever and an axis of the rotor forms an angle within a predetermined range of angles.

2. The key cylinder according to claim 1, wherein the end portion of the lever has a flange, which fits in the recess, wherein a receiving portion is formed in the recess, wherein the receiving portion receives the flange, wherein the holder is an elastic member, and wherein the elastic member urges the flange to the receiving portion to contact with the receiving portion.

3. The key cylinder according to claim 2, wherein the flange has a contact surface, wherein the contact surface contacts the receiving portion and is perpendicular to the axis of the lever, wherein the receiving portion has a receiving surface, wherein the receiving surface receives the contact surface and is perpendicular to the axis of the rotor, and wherein the elastic member holds the lever such that the lever and the rotor are coaxial.

4. The key cylinder according to claim 2, wherein the elastic member is fixed to the flange.

5. The key cylinder according to claim 1 further comprising

a protector for protecting the recess and the end portion of the lever.

6. The key cylinder according to claim 5 further comprising a rotor case, which holds the rotor, wherein the protector is cylindrical and body, which extends from the rotor case.

7. A key cylinder comprising:

a rotor case;

a rotor located in the rotor case, an engagement portion being formed in the rotor, wherein the rotor is rotated in accordance with an operation of a key;

a back spring located about the rotor case, wherein an end portion of the back spring engages within the engagement portion; and

a guide portion formed in an end portion of the rotor, wherein, when the rotor is attached to the rotor case, the guide portion guides the end portion of the back spring to the engagement portion.

8. The key cylinder according to claim 7, wherein the guide portion is a surface that is inclined with respect to an axis of the rotor, wherein the end portion of the back spring is bent radially inward.

9. The key cylinder according to claim 7, wherein the guide portion is one of a pair of guide portions, wherein the guide portions guide both end portions of the back spring.

10. The key cylinder according to claim 9, wherein the distance between the guide portions increases toward an end surface of the rotor and toward the radially outer surface of the rotor.

11. The key cylinder according to claim 7, wherein the guide portion is a first guide portion, wherein the rotor case has a second guide portion, wherein, when the back spring is attached to the rotor case, the second guide portion guides the back spring to a predetermined position in an axial direction of the rotor case and holds the back spring at the axial position.

12. An assembly method of a key cylinder including:

mounting a back spring to a rotor case; and
inserting a rotor, which rotates in accordance with an operation of a key, into the rotor case, wherein at least one of an end portion of the back spring is guided to an engagement portion, which is formed in the rotor, along a guide portion of the rotor.

13. A lever unit forming a part of a key cylinder and having a first lever, wherein the lever unit is located between a rotor of the key cylinder and a lock mechanism, wherein the rotor has a mounting portion, which can mount another lever having a different structure from that of the first lever, the lever unit comprising:

an intermediary member mounted on the mounting portion, wherein the first lever is connected to the intermediary member.

14. The lever unit according to claim 13 further comprising:

an accommodating portion located in the intermediary member; and

a connecting pin for connecting the intermediary member to the lever while an end portion of the first lever is accommodated in the accommodating portion, and wherein the connecting pin permits the first lever to swing.

15. The lever unit according to claim 14, wherein an elastic member is located between the end portion of the first lever and the accommodating portion, and wherein the elastic member is deformed to permit the first lever to swing.

5

16. A key cylinder for selectively locking and unlocking a lock mechanism, the key cylinder comprising:

a rotor, wherein the rotor is rotated in accordance with an operation of a key; and

10

a lever unit having a first lever, wherein the lever unit is located between the rotor and the lock mechanism, wherein the rotor has a mounting portion, which can mount another lever having a different structure with that of the first lever, wherein the lever unit includes an intermediary member mounted on the mounting portion, and wherein the first lever is connected to the intermediary member.

15

17. The key cylinder according to claim 16, wherein an engagement projection for engaging the intermediary member is located on an end surface of the rotor, wherein the engagement projection engages with the intermediary member.

20